

REVIEWS

Tending the Wild: Native American Knowledge and the Management of California's Natural Resources. By M. KAT ANDERSON. 2005. University of California Press, Berkeley. 555 pp. \$50.00 (cloth). ISBN 0-520-23856-7. \$19.95 (paper). ISBN 0-520-24851-1.

Among botanists and ecologists, the prevailing view has long been that Native American populations were too small, too dispersed, and too low-tech to have had much impact on California's native landscape. The fact that forests have encroached on Yosemite Valley meadows, and dead brush has built up to fuel catastrophic wildfires in many areas only since depopulation and decline of traditional practices among indigenous peoples has received little serious attention among those seeking to understand the flora and vegetation of our state.

More than a decade ago, an edited volume of papers on environmental management by Native Californians (Blackburn and Anderson 1993) quietly entered the scene. Anthropologists and ethnobotanists working independently in different areas had been finding indications that indigenous non-agricultural peoples systematically modified their surroundings. Taken together, the several papers on this theme did attract some notice, and researchers in other fields began to look at Native Americans' relationships with the land in a new light.

That was just an initial step. Now comes its apotheosis in an important new book, *Tending the Wild*. In this truly impressive work, ecologist M. Kat Anderson presents overwhelming evidence that California Indians—though often simplistically classed as “hunter-gatherers”—were unquestionably a powerful force in the history of California's flora and plant communities. The stunning wildflower displays and park-like woodlands filled with astonishingly abundant wildlife that dazzled early explorers and settlers were not, as they assumed, a pristine wilderness untouched by human hands. These were, in fact, anthropogenic landscapes.

As Anderson shows, some three hundred thousand indigenous people throughout the state could and did have profound effects as they selectively burned, pruned, weeded, tilled, scattered seeds, and harvested the results of their efforts over the course of many centuries. The long duration and broad scale of these practices demonstrably affected the diversity, abundance, distribution, physical structure and health of both plants and the ecosystems of which they are a part.

The book presents an enormous quantity of evidence derived from widely varied sources. Thorough examination of the historical, ethnographic and ecological literature provides information that is fairly compelling in itself, but that's only one part of it. Also cited are the vivid words of living Native elders themselves, from their own memories and in accounts passed down to them from earlier generations, based on interviews and fieldwork Anderson conducted among the Sierra Miwok and Mono. They clearly show that systematic management—particularly through burning—was pervasive, and that the landscape has changed and resources are less healthy now that people are no longer taking care of them in the old way.

Anderson and others have conducted field experiments replicating indigenous harvesting, burning, and pruning techniques to determine their effects on resource productivity in light of plants' responses to such disturbance. Among the most compelling lines of evidence are her studies of museum collections of cultural artifacts—visible proof that almost unimaginable quantities of unbranched shoots and rhizomes, which could only come from managed plants, were required to create the thousands of baskets and miles of hand-twisted cordage utilized by even a single Native village.

The book is divided into three principal sections. The first paints a picture of California's “natural” abundance as described by early visitors, summarizes indigenous peoples' place in and utilization of that world, and describes both cultural and environmental changes after European contact. The second part, “Indigenous Land Management and its Ecological Basis,” systematically presents and analyzes the various methods California Indians used to enhance productivity of specific culturally important resources. The final section discusses the perpetuation of some of these practices by Native people today and the lessons they may have for landscape restoration.

Fire suppression (with concomitant changes in vegetation) actively began around the turn of the last century in the Sierra and central California, where Anderson did much of her field research. Indian burning was forcibly terminated about a hundred years earlier throughout the large part of coastal California affected by the mission system (Timbrook et al. 1982). In many areas, therefore, indigenous fire management practices are no longer living in cultural memory, making their revival a challenging task. It is a worthwhile task nonethe-

less, and Anderson offers suggestions and guidelines about how this might be approached on a case-by-case basis in order to restore sustainable ecosystems.

Plant-oriented readers may note a few instances of hyperbole. For example, although it is well established that humans have been living in California for at least 13,000 years, Anderson provides no real archaeological or other evidence to support her assertion that they were actively managing resources for all that time. It is likely that these management practices were carried on for at least centuries and possibly millennia, but their actual antiquity remains unknown. She also sometimes seems a bit too attached to the concept of the ecological Indian living in harmony with the environment, waving aside the documented instances of overexploitation and extirpation in prehistory. I hope these few failings will not distract anyone from the important contributions of this work.

Obviously, there are many factors at play in the changes California's landscape has undergone since European contact—introduced weeds, livestock grazing, and various land-use practices by non-Indians to name a few—but it is clear that Native American management systems have

played a significant role too long unrecognized in the vegetation history of our state.

All the more appealing because it is very well written, this book would make an excellent text for all manner of anthropology, botany, ecology, and forestry classes. It is also a useful reference work, nearly a third of it devoted to a thorough index, a large bibliography, and endnotes offering copious citations for virtually every paragraph. There are also 3 maps, 44 illustrations, and 12 tables. All California botanists, plant ecologists and land managers should seek out, read, and pay attention to *Tending the Wild*.

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